REMARKS

Claims 1-90 are pending in the application. Claims 1, 34 and 54 are independent claims.

Claim 1 has been amended to clarify the claim language. Support for the term minimum offset is found with reference to **Fig. 2** and paragraph **[0022]** where it is clear that with the stabilizer having a larger diameter than the outer diameter of the portion of the BHA including the resistivity sensor, the offset can never be less than the difference between the two diameters. Paragraph **[0023]** discusses the situation wherein the sensor is mounted on a recess in the stabilizer: this too will provide the necessary minimum offset. Claim 1 has also been amended to replace intended use language with functional language. Claim 1 has not been narrowed.

Claims 3-6 have been amended to identify the sensor that is the subject of the claims.

Claim 6 has also been amended to replace intended use language with functional language.

Claim 11 has been amended to identify the sensor that is the subject of the claims. Claim 11 has also been amended to replace intended use language with functional language.

Claims 16- 19 have been amended to replace intended use language with functional language.

Claim 27 has been amended to correct a typographic error.

Claim 34 has been amended in a manner similar to claim 1.

Claim 40 has been amended to replace intended use language with functional language.

Claim 54 has been amended in manner similar to claim 1.

Claim 66 has been amended to correct a typographic error.

No new matter has been added by the amendments. Reconsideration of the application as amended is respectfully requested in view of the remarks below. The Examiner's rejections are addressed in substantially the same order as in the referenced office action.

REJECTIONS UNDER 35 USC § 102

Claims 1, 3-5, 22, 34-38, 44, 50-51, 53, 54, 56-58, 74 and 87 stand rejected under 35 USC § 102 over *Bittar* (US6359438). Claims 1, 34 and 54 are independent claims.

The invention of claim 1 is directed towards an MWD apparatus including a resistivity sensor that is maintained at an offset greater than a minimum value, and a device that maintains this offset. This minimum offset is maintained by either having the resistivity sensor proximate to a stabilizer and mounted on a portion of the drill collar with a smaller diameter than the stabilizer, or by recessing the resistivity sensor.

As the examiner has pointed out, *Bittar* includes many of the limitations of claim 1. However, it is clear that in the absence of any device for maintaining the minimum standoff of claim 1, during whirling motion of the drill collar of *Bittar,* there is no way to ensure that the sensor 100 does not make contact with the borehole wall. While *Bittar* does disclose the use of stabilizers (as noted by the Examiner), there is no recognition of the problem caused by contact of the resistivity sensor with the borehole wall and hence no solution to address the problem.

Accordingly, applicant respectfully submits that claim 1 is patentable under 35 USC § 102 over *Bittar.* It is further noted that the other reference cited by the Examiner (US6443228 to *Aronstam*) has no teaching or suggestion of maintaining a minimum offset of the resistivity sensor from the borehole wall. Accordingly, applicant further submits that claim 1 is also patentable under 35 USC § 103 over *Bittar* in view of *Aronstam* and the prior art of record.

Claims 2-33 that depend upon claim 1 are patentable under 35 USC §§ 102-103 over the prior art of record for the same reasons that claim 1 is patentable under 35 USC §§ 102-103 over the prior art of record

Claim 34 includes the substantive limitations of claim 1 discussed above, namely a resistivity sensor with an offset greater than a minimum value. Accordingly, applicant respectfully submits that claim 34 and claims 35-53 that depend upon claim 34 are also

patentable under 35 USC §§ 102-103 for the same reasons that claim is patentable under 35 USC §§ 102-103.

Claim 54 is a method claim that includes the substantive limitations of claim 1 discussed above. Accordingly, applicant respectfully submits that claim 54 and claims 55-90 that depend upon claim 34 are also patentable under 35 USC §§ 102-103 for the same reasons that claim is patentable under 35 USC §§ 102-103.

REJECTIONS UNDER 35 USC §112

Claims 3-19 stand rejected under 35 USC § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claims 3-6, 11 have been amended to make clear that the sensor referred to therein is the resistivity sensor.

Accordingly, applicant respectfully submits that claims 3-19 are patentable under 35 USC § 112 ¶ 2.

REJECTIONS UNDER 35 USC § 103

Claims 20-21, 42, 43 and 72-73 stand rejected under 35 USC § 103 over *Bittar* in view of *Aronstam* et al. This issue has been addressed above in the discussion on the rejection of claims under 35 USC § 102.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 02-0429 (414-34391-US).

Respectfully submitted,

Dated: April 22, 2005

Kaushik P. Sriram, Reg. No. 43,150
Madan, Mossman & Sriram, P.C.
2603 Augusta, Suite 700
Houston, Texas 77057
Telephone: (713) 266-1130
Facsimile: (713) 266-8510